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Author.

HEPATIC ABSCESS.

BY

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PASSED ASSISTANT SURGEON U. S. MARINE-HOSPITAL SERVICE.



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HEPATIC ABSCESS.

BY GEORGE TULLY VAUGHAN, M.D.,
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THE following cases of abscess of the liver occurred in my practice while stationed at Evansville, Indiana, in charge of the marine hospital at that port. In none of the cases could any history of malaria or of dysentery or other bowel-trouble be elicited, so that they must be classed etiologically as idiopathic.

The causes of hepatic abscess usually given are:

1. The ameba coli in cases of dysentery.
2. Suppurative inflammation in other parts of the body, especially in connection with the portal circulation or the branches of the inferior vena cava, as ulceration in typhoid fever, colitis, proctitis, appendicitis, pelvic and perineal abscess, and hemorrhoids; also septicemia and pyemia, and injuries to the skull and other bones, producing osteomyelitis.
3. Foreign bodies and parasites, as gall-stones, needles, fish-bones, etc., from the alimentary canal, the ascaris lumbricoides, echinococcus, and tubercle-bacillus.

4. Traumatism, the skin not necessarily being broken.
5. Idiopathic, when, the cause being unknown, the disease is attributed to excessive heat, sudden chill, malaria, or the excessive use of alcohol.

Climate, race, age, and sex are to be considered as predisposing causes. Tropical and subtropical countries furnish most of the cases. The condition occurs in the negro as well as in the white man, but I cannot say which is the more predisposed. The large majority of



cases occur during the active period of life—from twenty to fifty years of age. Sex is a very important factor, as it appears from the statistics collected that only about 3 per cent. of cases occur in women. As stated by Professor W. C. Dabney, the most important symptoms are directly connected with the liver, such as swelling, pain, and tenderness on pressure in the hepatic region. These symptoms, with irregular chills, fever, and sweats, give strong presumptive evidence of abscess of the liver.

According to Cyr, quoted in Sajous' *Annual*, if the abscess is located in the convex part of the liver, there is dyspnea and marked pain radiating toward the chest and shoulder, seldom jaundice; if located in the center, there is absence of local symptoms, but decided jaundice if the abscess be large; and when seated near the under surface there is an absence of thoracic symptoms, but stomach troubles, such as vomiting, are likely to exist. Chyluria is a symptom that should be remembered, in order to exclude pancreatic and hemato-parasitic diseases. It was not observed in any of my cases.

Without doubt the proper treatment is early incision, with free drainage, under aseptic conditions. Of six cases that I have seen treated in this way (including my own three), five recovered, and the sixth would probably have done so had not the operation been delayed until the abscess had opened into the right lung. The abscess-cavity was not irrigated in my cases. The pus being sterile, as a rule, irrigation seemed unnecessary, and I have seen it produce unpleasant symptoms.

CASE I.—F. P., a white boatman, twenty-six years old, was admitted to the hospital on February 27, 1891, having suffered for five weeks with severe pain in the region of the liver, with irregular chills, fever, night-sweats, occasional vomiting and a dry cough. The bowels were constipated. There was no history of malaria or dysentery, but the patient had used alcoholics steadily for several years. There was evident tumefaction in the

epigastrium and right hypochondrium, most marked at a point midway between the navel and the cartilage of the right ninth rib, where also the pain and tenderness were greatest. The liver-dulness in front extended from the fifth rib to the level of the umbilicus.

The stools were light in color, the urine dark, and thought to give a slight bile-reaction with chloroform, though it gave none with Gmelin's test.

For three weeks after admission to the hospital there was little change in the symptoms. The temperature, taken in the mouth, ranged from 37°-37.3° C. in the morning to 37.5°-38° in the evening; but the pain grew worse, requiring large doses of morphin for relief. It not being clear whether the case was one of abscess of the liver or one of obstruction of the cystic duct or bile-ducts, exploratory celiotomy was considered justifiable.

Chloroform was given, and under aseptic precautions an incision fifteen centimeters long was made through the skin and fascia from the most prominent part of the cartilage of the right ninth rib downward, parallel with the linea alba. The muscles were divided to the extent of ten centimeters, down to the peritoneum, which was found thickened, but not adherent to the liver.

All bleeding was arrested, and the peritoneum opened by an incision eight centimeters long, bringing the liver into view. Two fingers were introduced, and, as far as they could reach, the liver was felt, giving the sensation of a fluctuating tumor with thin walls. As there were no adhesions the visceral and parietal layers of peritoneum were stitched together with catgut, thus closing the peritoneal cavity and leaving about five centimeters of liver-surface exposed at the bottom of the wound, which was packed with iodoform-gauze and dressed. The next day firm adhesions were found to have formed, effectually sealing the peritoneal cavity. A knife was thrust into the liver, with the expectation of inducing a large outflow of pus, which, however, failed to appear even when the

instrument had been inserted to the depth of two and one-half centimeters.

A large aspirating-needle was then tried, and at the depth of seven and one-half centimeters about sixty cubic centimeters of bloody pus were withdrawn. A finer needle was introduced in various directions in the liver-substance, to the depth of from five to eight centimeters, but only blood was found.

The wound was packed and dressed as before, and the dressing was changed about every fourth day. The pain gradually disappeared, the pulse and temperature became normal, and one month after the operation the patient was discharged, apparently recovered, with a considerable diminution in the size of the liver. Two years later there had been no return of the abscess, and the patient was in fair health.

CASE II.—This case is of especial interest on account of the unusually large size of the abscess.

C. M., a negro laborer, about forty-five years old, was admitted to the hospital for treatment in September, 1891. According to his account he had been suffering with acute hepatitis for about a year. There was no history of malaria or dysentery, but of irregular chills and fever, sometimes rigors, followed by fever and profuse sweats, pain in the region of the liver, progressive weakness, emaciation, and dyspnea.

The pulse ranged from 90 to 100, the temperature from 38.9° C. to 39.5° . On examination no tender spot, fluctuation, or bulging between the ribs could be detected. The lower extremities were much swollen, and the dyspnea was great. The abdomen was enormously distended, especially over the region of the diaphragm, from which it gradually tapered above and below—the patient's body having much the appearance of a barrel. The patient was chloroformed, and under aseptic precautions an exploratory incision into the abdominal cavity was made in the median line, just above the

navel, and of sufficient length to permit the introduction of the hand, by means of which a large fluctuating tumor of the right lobe of the liver was distinguished, almost filling up the abdominal cavity. Strong adhesions were detected on the right side, at about the level of the eighth rib, and an incision was made from without into the liver, through the site of the adhesions, between the eighth and ninth ribs, in the axillary line. This was followed by a jet of pus, which, owing to the tension under which it had been retained, escaped with such force that it struck the wall about five feet above the floor, and thus a good deal was lost before it could be made to flow into the vessel provided for it.

About six liters (one and one-half gallons) of pus were caught in a vessel, and it was judged that fully two liters escaped on the floor, making, by a conservative estimate, a total of eight liters. The wound in the median line was closed with catgut sutures, and healed by primary union, without suppuration. A large rubber drainage-tube was passed into the abscess-cavity through the opening between the ribs, and secured in that position by a safety-pin and adhesive plaster, with just enough projecting to allow the introduction of a small cork. This cork was for a time removed once daily to allow the pus to escape, later less frequently, and at the same time the tube was gradually withdrawn as the cavity contracted, until it was removed entirely two months after the operation. The patient was discharged, recovered, December 15, 1891. When last heard from, in June, 1893, through the kindness of Dr. Edwin Walker, who assisted me at the operation, the patient was in good health.

CASE III.—J. R., a negro boatman, twenty-one years old, was admitted to the hospital on December 21, 1891. He had been suffering with severe pains in the right side and shoulder for three or four weeks. No history of malaria or dysentery could be elicited. No chills

occurred, but there was acceleration of pulse and elevation of temperature, with profuse perspiration. On account of the severity of the pain and its location, with the other symptoms, abscess of the liver, with adhesions, was suspected, and proved by getting pus on the introduction of a hypodermatic needle. The abscess was opened by an incision in the axillary line between the eighth and ninth ribs, about seventy-five cubic centimeters of pus being evacuated. The symptoms improved, but in less than a week the temperature began to rise again. Under chloroform-anesthesia a careful examination of the abscess-cavity was made, when the finger broke into a second abscess just below the first, about the same quantity of pus being evacuated. An opening was made between the ninth and tenth ribs and a tube introduced, so as to drain the lowest part of the cavity. The patient gradually improved, and was discharged, recovered, April 1, 1892.

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